

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF NORTH CAROLINA
SOUTHERN DIVISION
NO. 7:23-CV-00897**

IN RE:

CAMP LEJEUNE WATER LITIGATION

This Document Relates To:

***Hill v. United States*, 7:23-CV-00028-M-KS**

**UNITED STATES' MEMORANDUM OF
LAW IN SUPPORT OF ITS MOTION TO
EXCLUDE THE SPECIFIC CAUSATION
OPINIONS OF DR. DEAN FELSHER**

(LEUKEMIA)

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INTRODUCTION

The Court should exclude the testimony of Plaintiffs’ specific causation expert, Dr. Dean Felsher, under Federal Rule of Evidence 702. The reasoning or methodology underlying Dr. Felsher’s testimony is neither scientifically valid nor sufficiently reliable to allow admission under the Rule. Dr. Felsher opined that Plaintiff Bruce Hill had several risk factors for chronic lymphocytic leukemia (“CLL”), including his age, sex, family history of cancer, obesity, and occupational exposure to jet fuel. However, in his differential etiology, Dr. Felsher did not take serious account of these factors—or failed to consider them at all—before ruling them out as a potential alternative cause of Mr. Hill’s CLL. Dr. Felsher also failed to consider or exclude idiopathy as a cause of Mr. Hill’s CLL—a disease that is generally accepted in the scientific community to be highly idiopathic. Additionally, the Court should exclude Dr. Felsher’s opinions that (1) Mr. Hill’s alleged exposure to vinyl chloride in the water at Camp Lejeune was a contributing cause of his CLL or (2) Mr. Hill’s alleged exposure to the water at Camp Lejeune was a cause of Mr. Hill’s fatty liver disease or chronic kidney disease. Dr. Felsher abandoned these opinions at his deposition.

For these reasons and additional reasons discussed below, the United States respectfully asks this Court to grant this Motion and exclude Dr. Felsher’s specific causation opinions from trial in *Hill v. United States* (7:23-CV-00028-M-KS).

BACKGROUND

In a bellwether case under the Camp Lejeune Justice Act of 2022 (“CLJA”), *Hill v. United States* (7:23-CV-00028-M-KS), Plaintiff Bruce Hill claims CLL and two secondary conditions, hepatic steatosis (“fatty liver disease”) and non-cancer chronic kidney disease, as illnesses suffered as a result of his exposure to the water at Camp Lejeune. *See* 3d Am. Short Form Compl., [D.E. 21](#),

Case No. 7:23-cv-00028-M-KS. Plaintiffs disclosed Dr. Dean Felsher (who also offered general causation opinions) as an expert to offer opinions on specific causation for Mr. Hill. Mr. Hill relies solely on Dr. Felsher to prove specific causation.

Dr. Felsher's specific causation report claims that he used a "differential etiology," which he defines as a method "to determine whether Mr. Hill had risk factors relating to his CLL and, if so, which risk factor(s), if any, were at least as likely than not, causative of his CLL." *See* Felsher SC Rep. (Hill) at 20 (JA Ex. 450, D.E. [496-2](#)) [hereinafter, "D.E. 496-2"]; *see also* Felsher Am. SC Rep. (Hill) at 20 (JA Ex. 450, D.E. [496-3](#)) [hereinafter, "D.E. 496-3"].¹ Dr. Felsher identified Mr. Hill's age (51 at diagnosis), sex (male), family history of cancer, and obesity as risk factors for his CLL but summarily dismissed these factors as not "causal" of Mr. Hill's CLL. *See* D.E. 496-3 at 20-21. Additionally, Dr. Felsher acknowledged that Mr. Hill had occupational exposure to jet fuel (which contains benzene), but summarily ruled this out as a risk factor. He stated:

Mr. Hill's occupational history included fueling aircraft for a period of time while serving on an aircraft carrier. He did wear personal protective equipment during these endeavors. While exposure to jet fuel is thought to be associated with certain cancers, CLL is not one of them. In addition, Mr. Hill's use of a mask and gloves and protective gear would have minimized any inhalation of the vapors. In my opinion, any exposure that Mr. Hill may have had to jet fuel would not be a risk factor for his CLL.

Id. at 21.

Ultimately, Dr. Felsher opined that, more likely than not, Mr. Hill's alleged exposure to benzene, trichloroethylene ("TCE"), vinyl chloride ("VC"), and tetrachloroethylene ("PCE") in the water at Camp Lejeune was a "substantial" or "significant" contributing cause of his CLL. *Id.* at 6, 21. Though Dr. Felsher's report includes an opinion that VC is a contributing cause of Mr.

¹ Dr. Felsher amended his specific causation report for Bruce Hill. This motion will refer to the operative Amended Specific Causation Report for Mr. Hill, D.E. 496-3.

Hill's CLL, Dr. Felsher conceded in his general causation deposition that there is insufficient evidence that VC can cause hematopoietic cancers such as CLL. *See* Felsher GC Dep. Tr. at 45:5-46:8 (JA Ex. 164, D.E. [470-3](#)) [hereinafter, "Felsher GC Dep. Tr."].

At his specific causation deposition, Dr. Felsher admitted that he could not accurately quantify the degree to which Mr. Hill's age, gender, obesity, occupational exposure to jet fuel, or alleged exposure to contaminated water at Camp Lejeune may have contributed to causing his CLL. *See* Felsher SC Dep. Tr. at 236:7-242:19 (JA Ex. 606, D.E. [509-4](#)) [hereinafter, "Felsher SC Dep. Tr."].

Further, Dr. Felsher's report did not mention or consider idiopathy as a cause of Mr. Hill's CLL. *See generally* D.E. 496-3. When asked at deposition whether he considered or ruled out idiopathy as a potential alternative cause of Mr. Hill's CLL, Dr. Felsher stated "it's impossible to determine it's idiopathic because I found a cause, but I know that there could be other causes I don't know about, so there's always the possibility that there's a component that's idiopathic." Felsher SC Dep. Tr. at 252:2-8. In fact, he disagreed with the concept of ruling out idiopathy, calling it "a silly tongue-twister concept." *Id.* at 251:17-18.

Similarly, though Dr. Felsher's report mentioned that Mr. Hill suffered from fatty liver disease and chronic kidney disease among many other conditions, he did not specifically opine that these conditions were caused by exposure to the water at Camp Lejeune. *See* D.E. 496-3 at 20. When asked at his deposition, Dr. Felsher disavowed any opinion that Mr. Hill's fatty liver disease or chronic kidney disease were caused by exposure to the water at Camp Lejeune. *See* Felsher SC Dep. Tr. at 279:6-14.

LEGAL STANDARD

Expert testimony is admissible if it (a) “will help the trier of fact to understand the evidence or to determine a fact in issue,” (b) “is based on sufficient facts or data,” (c) “is the product of reliable principles and methods,” and (d) “reflects a reliable application of the principles and methods to the facts of the case.” Fed. R. Evid. 702. Expert testimony is only admissible if “it rests on a reliable foundation and is relevant to the task at hand.” *Belville v. Ford Motor Co.*, 919 F.3d 224, 232 (4th Cir. 2019) (quoting *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 597 (1993)). The Court must assess “whether the reasoning or methodology underlying the testimony is scientifically valid and . . . whether that reasoning or methodology properly can be applied to the facts in issue.” *Id.* at 232 (quoting *Daubert*, 509 U.S. at 592–93). The objective of Rule 702 and *Daubert* “is to make certain that an expert, whether basing testimony upon professional studies or personal experience, employs in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field.” *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 152 (1999).

Courts “must probe the reliability and relevance of expert testimony any time ‘such testimony’s factual basis, data, principles, methods, or their application are sufficiently called into question.’” *EEOC v. Freeman*, 778 F.3d 463, 472 (4th Cir. 2015) (Agee, J., concurring) (quoting *Kumho Tire*, 526 U.S. at 149). As recently amended, Rule 702 states that “expert testimony may not be admitted unless the proponent demonstrates to the court that it is more likely than not that the proffered testimony meets the admissibility requirements set forth in the rule.” Fed. R. Evid. 702 committee note to 2023 amendment. Thus, Plaintiffs bear the burden to prove, by a preponderance of the evidence, that Dr. Felsher’s methodology is sufficiently reliable to be admitted under Rule 702 and *Daubert*. That standard applies regardless of the ultimate burden of

proof. *Compare United States v. Rouse*, No. 22-4479, 2024 WL 2044630, at *1 (4th Cir. May 8, 2024) (per curiam) (beyond a reasonable doubt), *with Cooper v. Smith & Nephew, Inc.*, 259 F.3d 194, 198 (4th Cir. 2001) (more likely than not).

ARGUMENT

The Court should exclude Dr. Felsher's specific causation opinions in *Hill v. United States* because he failed to take serious account of other potential causes in his differential etiology and abandoned any opinions that Mr. Hill's fatty liver disease or chronic kidney disease were caused by exposure to the water at Camp Lejeune. First, Dr. Felsher failed to take serious account of the risk factors he identified for CLL in his differential etiology, including Mr. Hill's age, gender, obesity, family history, and occupational exposure. Second, CLL is a largely idiopathic disease, making a differential etiology analysis inherently unreliable. Moreover, Dr. Felsher failed to exclude or even consider idiopathy as a cause of Mr. Hill's CLL. Because his differential etiology is unreliable and he disavowed his fatty liver disease and chronic kidney disease opinions, this Court should find Dr. Felsher's specific causation opinions inadmissible.

I. Dr. Felsher's Methodology Is Unreliable Because It Fails to Take Serious Account of Risk Factors and Idiopathy.

A. Differential Diagnoses Must Reliably Rule In and Rule Out Potential Causes.

Dr. Felsher claims to have employed a differential etiology to determine the specific cause of Mr. Hill's CLL. Differential etiology is "a standard scientific technique of identifying the cause of a medical problem by eliminating the likely causes until the most probable one is isolated." *Westberry v. Gislaved Gummi AB*, 178 F.3d 257, 262 (4th Cir. 1999).² The process is

² Although some cases have used the terms "differential etiology" and "differential diagnosis" interchangeably, they refer to separate processes. *See, e.g., In re Lipitor (Atorvastatin Calcium) Mktg., Sales Pracs., & Prods. Liab. Litig.*, 150 F. Supp. 3d 644, 660 n.17 (D.S.C. 2015). "Differential diagnosis" refers to a process for "identifying a set of diseases or illnesses responsible

straightforward: The expert begins by “determining the possible causes for the patient’s symptoms and then eliminat[es] each of these potential causes until reaching one that cannot be ruled out or determining which of those that cannot be excluded is the most likely.” *Westberry*, 178 F.3d at 262 (citation omitted). A *reliable* differential etiology can be used to show specific causation. *See, e.g., id.* at 262.

When ruling in potential causes for a reliable differential etiology, however, the expert must do more than identify “risk factors,” and the expert “cannot merely conclude that all risk factors” are causes. *Guinn v. AstraZeneca Pharm. LP*, 602 F.3d 1245, 1255 (11th Cir. 2010). After all, “risk factor” and “cause” are not synonymous. *See, e.g., id.* (“The fact that exposure to [a substance] may be a risk factor for [a disease] does not make it an actual cause simply because [the disease] developed.” (citation and quotation omitted)); *Tamraz v. Lincoln Elec. Co.*, 620 F.3d 665, 670–71 (6th Cir. 2010) (“That manganese *could cause* Parkinson’s Disease in someone like Tamraz does not show that manganese *did cause* Tamraz’s Parkinson’s Disease.”). Many patients have risk factors and not the disease, and many patients have the disease with no risk factors. *See, e.g., In re Lipitor (Atorvastatin Calcium) Mktg., Sales Pracs., & Prods. Liab. Litig.*, 150 F. Supp. 3d 644, 657 (D.S.C. 2015) (describing patients with diabetes risk factors that do not have diabetes). At most, “[r]isk factors are *potential* causes” that require further consideration within the differential etiology framework. *Id.* at 659.

Although differential diagnosis is a reliable methodology, the expert’s opinion must still “reflect[] a *reliable application* of [those] principles and methods to the facts of the case.” Fed. R.

for [a] patient’s symptoms,” and “differential etiology” refers to a process for “identifying the causal factors involved in an individual’s disease or illness.” Fed. Jud. Ctr., *Reference Manual on Scientific Evidence* 617 n.211 (3d ed. 2011) [hereinafter *RMSE*]. Because the latter method is “more accurately referred to as differential etiology,” the United States uses that term. *Id.* at 617.

Evid. 702(d) (emphasis added). “[N]ot every opinion that is reached via a differential-diagnosis method will meet the standard of reliability required by *Daubert*.” *In re Lipitor (Atorvastatin Calcium) Mktg., Sales Pracs., & Prods. Liab. Litig.*, 892 F.3d 624, 643 (4th Cir. 2018) (quotation omitted). To satisfy *Daubert* and Rule 702, the expert must “take serious account” of other potential causes for the disease and reliably rule them out. *Westberry*, 178 F.3d at 265. And while an expert “need not rule out all possible alternative causes,” he “must at least consider” other potential causes. *In re Lipitor*, 892 F.3d at 643 (citation and quotation omitted); *see also Nix v. Chemours Co. FC*, No. 7:17-cv-189, 2023 WL 6471690, at *8 (E.D.N.C. Oct. 4, 2023) (Dever, J.) (“When there are multiple avenues of potential causation, an expert must account for alternative causes.”). The expert must also reliably rule *in* toxic exposure as a potential cause by “show[ing] the general toxicity of the [substance] by reliable methods.” *McClain v. Metabolife Int’l, Inc.*, 401 F.3d 1233, 1253 (11th Cir. 2005).

B. Dr. Felsher Failed to Reliably Rule Out the Multiple Risk Factors He Identified for CLL, Including Age, Gender, Obesity, Family History, and Occupational Exposure.

Though Dr. Felsher’s differential etiology did purportedly consider (and summarily rule out or reject) the risk factors he identified for CLL (including Mr. Hill’s age, gender, obesity, family history, and occupational exposure), his analysis of those factors—and, more importantly, his reasons for rejecting each of them as the likely cause of Mr. Hill’s CLL—fell far short of the reliable differential etiology required by *Daubert*. Because Dr. Felsher failed “to take serious account of other potential causes” of CLL, his differential etiology is unreliable, and this Court should hold that Dr. Felsher’s specific causation opinions are inadmissible. *Westberry*, 178 F.3d at 265.

It is well settled that “simply calling an analysis a differential diagnosis doesn’t make it so.” *In re Lipitor*, 892 F.3d at 643–44; *see also McClain*, 401 F.3d at 1253 (“[A]n expert does not

establish the reliability of his techniques or the validity of his conclusions simply by claiming that he performed a differential diagnosis on a patient.”); *Black v. Food Lion, Inc.*, 171 F.3d 308, 313–14 (5th Cir. 1999). And “[n]ot every opinion that is reached via a differential-diagnosis method will meet the standard of reliability required by *Daubert*.” *Best v. Lowe’s Home Ctrs., Inc.*, 563 F.3d 171, 179 (6th Cir. 2009). “Although a reliable differential diagnosis need not rule out all possible alternative causes, it must at least consider other factors that could have been the sole cause of the plaintiff’s injury.” *Guinn*, 602 F.3d at 1253.

Here, Dr. Felsher identified Mr. Hill’s age (51 at diagnosis), sex (male), family history of cancer, and obesity, as risk factors for his CLL. *See* D.E. 496-3 at 20-21. But, Dr. Felsher summarily ruled out these factors with little to no explanation other than Mr. Hill’s alleged Camp Lejeune exposure and concluded they were not “causal” of Mr. Hill’s CLL. *Id.* Additionally, he acknowledged that Mr. Hill had occupational exposure to jet fuel (which he conceded contained benzene), but he rejected this exposure as a risk factor on two grounds: (1) he claimed that Mr. Hill had minimized his inhalation of jet fuel vapors by using “protective equipment;” and (2) he inexplicably claimed that exposure to jet fuel, which contains benzene, is not associated with CLL (even though he opined that benzene is associated with CLL). *See* D.E. 496-3 at 21, *see also* Felsher SC Dep. Tr. at 247:3-5.

Without any other explanation, Dr. Felsher concluded that exposure to the water at Camp Lejeune was a substantial contributing cause of Mr. Hill’s CLL. *See* D.E. 496-3, at 6, 21. He did not offer an opinion quantifying the degree to which other individual risk factors may have contributed to Mr. Hill’s CLL in comparison to Mr. Hill’s exposure at Camp Lejeune. *See* Felsher SC Dep. Tr. at 244:4-12 (“I don’t really think you can think about it as the way you assign a relative

quantification. What I can say is...these exposures can be a cause, and...more likely than not they were a cause. I'm not saying they were the only cause.”); *see also id.* at 239:8-240:12.

This reasoning or methodology is insufficient to meet the reliability standard of Rule 702 and *Daubert*. Although Dr. Felsher need not rule out every possible alternative cause of a disease in his differential diagnosis, he must offer an explanation as to why the other risk factors he identified are not responsible for Mr. Hill's CLL. *See Westberry*, 178 F.3d at 265; *Cooper*, 259 F.3d at 202–03 (affirming exclusion of expert testimony where expert “did not identify how he ruled out smoking and other potential causes” of the injury and simply “read two articles on smoking and rejected them as unpersuasive”); *Engilis v. Monsanto Co.*, --- F.4th ---, 2025 WL 2315898, at *8-10 (9th Cir. Aug. 12, 2025) (affirming exclusion of specific causation expert who failed to give any “reasoned explanation” for why obesity was not a risk factor for CLL). Even if multiple factors can work together to cause CLL, Dr. Felsher is still required to provide *some* analysis of the reason that he concluded that the water at Camp Lejeune was the likely cause of Mr. Hill's CLL. *See Guinn*, 602 F.3d at 1255; *In re Lipitor*, 150 F. Supp. 3d at 659. He cannot “simply pick[] the cause that is most advantageous to [Mr. Hill's]] claim.” *Viterbo v. Dow Chem. Co.*, 826 F.2d 420, 424 (5th Cir.1987); *In re Prempro Products Liab. Litig.*, No. 3:05CV00078–WRW, 2010 WL 8357351, at *2 (E.D. Ark. Sept. 26, 2010) (“Mentioning some risk factors and moving on to a conclusion, without a specific explanation, is not a proper differential diagnosis [it] is simply a recitation of facts—this does not help the [finder of fact].”).

Here, Dr. Felsher opines, “CLL can have more than one significant contributing cause.” D.E. 496-3 at 11. He concludes that exposure to water at Camp Lejeune was a substantial contributing cause of Mr. Hill's CLL merely by ruling it in as a potential cause while conceding that there “could be other causes.” *Id.* at 6, 21; *see also* Felsher SC Dep. Tr. at 111:16-23. In this

sense, Dr. Felsher appears to be contending that since CLL can have multiple concurrent causes, he need not analyze the role played by each cause. But that is exactly what courts reject: “An expert, however, cannot merely conclude that all risk factors for a disease are substantial contributing factors in its development.” *Guinn*, 602 F.3d at 1255.

To perform a valid, reliable differential etiology, Dr. Felsher had to actually take risk factors into account, and not just summarily exclude them as the likely cause by pointing to the Camp Lejeune exposure. Despite conceding “obesity might have increased [Mr. Hill’s] risk for cancer,” D.E. 496-3 at 21, Dr. Felsher failed to provide any reasoned explanation for why Mr. Hill’s obesity is not a likely alternative cause for Mr. Hill’s CLL in comparison to his exposure at Camp Lejeune. *See, e.g., Engilis*, 2025 WL 2315898, at *8-10; *In re Roundup Prods. Liab. Litig.*, Nos. 16-md-02741-VC; 3:21-cv-07124-VC; 3:22-cv-00358-VC; 3:21-cv-03297-VC, 2025 WL 869146, at *1–2 (N.D. Cal. Mar. 14, 2025) (excluding expert’s opinion that did not consider the plaintiffs’ increased weight, despite it carrying a “statistically significant” increased risk for non-Hodgkin’s lymphoma, along with other exposures). Likewise, Dr. Felsher failed to offer any explanation as to why the other risk factors he identified for Mr. Hill’s CLL (age, sex, family history of cancer, obesity, and occupational exposure), alone or in combination, are not likely responsible for Mr. Hill’s CLL. As such, his differential etiology is unreliable and should therefore be excluded.

Moreover, Dr. Felsher’s summary rejection of Mr. Hill’s occupational exposure to jet fuel as a risk factor is unreliable, factually and scientifically unsupported, and contradicts other opinions in his reports. It is well settled that a court should exclude testimony based on “belief or speculation,” *Oglesby v. Gen. Motors Corp.*, 190 F.3d 244, 250 (4th Cir. 1999), or when not supported by the record. *See Bryte ex rel. Bryte v. Am. Household, Inc.*, 429 F.3d 469, 477 (4th

Cir. 2005); *Tyger Constr. Co. v. Pensacola Constr. Co.*, 29 F.3d 137, 142 (4th Cir. 1994). Moreover, “nothing in either *Daubert* or the Federal Rules of Evidence requires a district court to admit opinion evidence that is connected to existing data only by the *ipse dixit* of the expert.” *Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 146 (1997). Similarly, a court may exercise its “discretion to find that there is ‘simply too great an analytical gap between the data and the opinion proffered.’” *Pugh v. Louisville Ladder, Inc.*, 361 F. App’x 448, 454 n.4 (4th Cir. 2010) (quoting *Joiner*, 522 U.S. at 146). Finally, “[a]n expert’s opinion may be unreliable if he fails to account for contrary scientific literature and instead selectively chooses his support from the scientific landscape.” *Yates v. Ford Motor Co.*, 113 F. Supp. 3d 841, 858–59 (E.D.N.C. 2015) (Flanagan, J.) (citation and quotation marks omitted). “If the relevant scientific literature contains evidence tending to refute the expert’s theory and the expert does not acknowledge or account for that evidence, the expert’s opinion is unreliable.” *Id.* (citation and brackets omitted); *see also Norris v. Baxter Healthcare Corp.*, 397 F.3d 878, 886 (10th Cir.2005) (affirming exclusion of expert testimony that failed to account for epidemiological evidence); *In re Zoloft (Sertraline Hydrochloride) Prods. Liab. Litig.*, 26 F. Supp. 3d 449, 460-61 (E.D. Pa. 2014) (“The Court finds that the expert report prepared by Dr. Bérard does selectively discuss studies most supportive of her conclusions, as Dr. Bérard admitted in her deposition, and fails to account adequately for contrary evidence, and that this methodology is not reliable or scientifically sound.”); *Poosh v. Phillip Morris USA, Inc.*, 287 F.R.D. 543, 546 (N.D. Cal. 2012) (“A methodology may not be reliable if an expert fails to address and exclude alternative explanations for the data on which he bases his findings or rejects studies reporting contrary empirical findings.”) (quotation marks and brackets omitted).

Here, Dr. Felsher’s opinion excluding jet fuel exposure as a likely cause of Mr. Hill’s CLL is unreliable because he failed to acknowledge or account for scientific literature containing

evidence that occupational handling of jet fuel could expose one to benzene. Indeed, Dr. Felsher's report did not cite, review, or otherwise rely on any scientific literature on jet fuel exposure when ruling it out as a risk factor. *See generally*, D.E. 496-3, at 29-35; *see also* Felsher SC Dep. Tr., at 244:4-12. Thus, his opinion has no basis in science and is "closer to an *ipse dixit* than a reasoned scientific analysis." *In re Lipitor*, 892 F.3d at 645; *Joiner*, 522 U.S. at 146.

Contrary to Dr. Felsher's assertions, the International Agency for Research on Cancer ("IARC") has concluded that benzene is a residual component in petroleum-based products such as jet fuel. *See* IARC 2018 Monograph 120 at 68 (JA Ex. 202, D.E. [474-1](#)). The IARC has further identified scientific reports which indicate occupational handling of jet fuel could potentially exceed benzene exposures of 1 ppm [3.19 mg/m³], depending on work tasks and circumstances. *See id.* Though Dr. Felsher claimed to have "reviewed related documents pertaining to Camp Lejeune and to each carcinogen from the . . . IARC" in his report, he did not mention, let alone address, any of the foregoing IARC literature showing benzene exposure from jet fuel in his report. D.E. 496-3 at 6. While Dr. Felsher claimed at his deposition that he "considered the possibility" that Mr. Hill had "some exposure" to benzene while handling jet fuel, Felsher SC Dep. Tr. at 247:3-10, he maintained that any such exposure would not change his opinion that Mr. Hill's exposure to the water at Camp Lejeune "could be a contributing cause of cancer." *Id.* at 248:3-12. Dr. Felsher's opinion is inherently unreliable because it fails to acknowledge or account for scientific literature containing evidence highly relevant to his process of ruling out exposure to benzene in jet fuel as a risk factor while also opining that benzene in the water at Camp Lejeune was a substantial contributing cause for Mr. Hill's CLL. *See Yates*, 113 F. Supp. at 858-59; *In re Zolofit*, 26 F. Supp. 3d at 460-61; *Pooshs*, 287 F.R.D. at 546.

Additionally, Dr. Felsher's assertion that CLL is not associated with exposure to jet fuel is contrary to other statements that he has made in this litigation. For example, in his specific causation report, he states that that "Farming, rubber manufacturing industries and *workers exposed to benzene* and other chemical solvents *increase the risk of CLL*." D.E. 496-3 at 11 (emphasis added). Applying Dr. Felsher's own statements to the facts of this case, it would follow that Mr. Hill's occupational exposure to jet fuel, which Dr. Felsher concedes contains benzene (*see* Felsher SC Dep. Tr. at 247:3-4), would increase Mr. Hill's risk of CLL. However, Dr. Felsher failed to acknowledge or account for this statement in ruling out Mr. Hill's exposure to jet fuel as a risk factor later in his report. *See* D.E. 496-3 at 21.

In another example, Dr. Felsher contradicted opinions he offered in his general causation report. There, he opined that "even what may be perceived as very low-level environmental exposures to carcinogens, and in particular combinations of carcinogens, can be an increased risk of cancer. The most sensitive methodologies that exist have found that even at the lowest doses measurable for the limitations of each method, there is evidence for mutagenesis." *See* Felsher GC Rep. (NHL-Leuk) at 37 (JA Ex. 107, D.E. [466-1](#)) [hereinafter, "D.E. 466-1"]. Dr. Felsher's general causation report further stated, "[w]hen such considerations are performed, for many carcinogens such as benzene, it has been found that there has yet to be measured a level of exposure where there is no risk." *Id.* at 38. Finally, he opined that "for cancer to initiate, progress, or become therapeutically less responsive, even a single mutation in a single cell can be contributory to drive cancer." *Id.* Essentially, Dr. Felsher makes a "no safe dose" argument concerning chemical exposure and cancer in his general causation report, but inexplicably discounts Mr. Hill's potential exposure to benzene in jet fuel as insignificant. His attribution of Mr. Hill's CLL to exposure to alleged chemicals in the water at Camp Lejeune (and not Mr. Hill's exposure to benzene in jet

fuel) is inconsistent with the methodology expressed in his general causation report. And it is inherently contradictory for Dr. Felsher to summarily rule out exposure to benzene in jet fuel as a risk factor while also opining that benzene in the water at Camp Lejeune was a contributing cause of Mr. Hill's CLL.

Finally, Dr. Felsher's assertion that Mr. Hill's purported use of "protective gear would have minimized any inhalation of the vapors" (D.E. 496-3, at 21) is unreliable because it is impermissibly based on "belief or speculation" and "not supported by the record." *Oglesby*, 190 F.3d at 250; *Bryte*, 429 F.3d at 477; *Tyger*, 29 F.3d at 142. Dr. Felsher conceded that he did not know the specific type of protective gear worn by Mr. Hill while fueling aircraft. *See* Felsher SC Dep. Tr. at 242:20-244:3. Nor did he know what type of protective equipment was generally available and provided to Aviation Boatswain Mates in the 1970s when Mr. Hill was fueling aircraft. *See id.* at 243:17-25. Instead, his report relied solely on Mr. Hill's testimony, the entirety of which states:

Q Okay. And what type of protective gear would you have when you were fueling? Gloves, masks, or anything?

A Yeah, and your helmet.

Q Helmet?

A Yeah.

Q Okay.

A And your life vest. Sorry. Your life vest too.

See **Exhibit A**, Hill Dep. Tr., at 124:12-21 [hereinafter, "Hill Dep. Tr."].³ This testimony suggested that Mr. Hill used, at most, an unspecified type of mask, gloves, helmet, and a life vest while

³ Exhibit __ is an excerpt of the deposition transcript containing the relevant testimony cited in this motion. A full copy of this transcript is available upon the Court's request.

fueling aircraft, but there is no mention of any protective gear protecting Mr. Hill from breathing jet fuel fumes containing benzene. But Dr. Felsher cannot reliably assert that Mr. Hill's exposure to jet fuel was minimized when there is no evidence of the specific gear used and how effective it was. Put simply, there is too great an "analytical gap" between the meager evidence cited and Dr. Felsher's assertion that Mr. Hill's exposure to jet fuel vapors would have been minimized such that jet fuel exposure can be reliably ruled out as a risk factor for Mr. Hill's CLL. *Joiner*, 522 U.S. at 146.

Contrary to Dr. Felsher's assertion that Mr. Hill's "exposure [to jet fuel] was brief" (Felsher SC Dep. Tr. at 239:23-240:1), the evidence shows a substantial period when Mr. Hill handled jet fuel as an Aviation Boatswain Mate Fuel ("ABF"), spanning multiple years between 1971-1974 and 1976-1978—a far longer period than Mr. Hill's potential exposure to the water at Camp Lejeune, which was less than two years. *See* D.E. 496-3 at 21-24; *see also* **Exhibit B**, [Mr. Hill's Military Service Records]. Because there is too great an "analytical gap" between the data and Dr. Felsher's conclusions ruling out Mr. Hill's occupational exposure to jet fuel as a risk factor, his opinions should be excluded. *Joiner*, 522 U.S. at 146.

For the foregoing reasons, Dr. Felsher's differential etiology failed to take serious account of other risk factors of CLL and instead relied on inadmissible *ipse dixit* and unsupported assertions to rule out recognized risk factors for CLL. Dr. Felsher's specific causation opinions for Mr. Hill are therefore unreliable, and this Court should find them inadmissible under Rule 702 and *Daubert*.

C. Dr. Felsher Failed to Reliably Rule Out Idiopathy as a Potential Cause of Mr. Hill's CLL.

In addition, Dr. Felsher failed to consider idiopathy at all in his differential etiology. This omission in and of itself justifies exclusion of his specific causation opinions from trial.

While some diseases can have well-established causes (e.g., smoking and lung cancer), many diseases present without identifiable causes and are thus “of unknown cause” or “idiopathic.” When there are many idiopathic cases of a particular disease, it is “impossible to ignore and difficult to rule out” the possibility of idiopathy. *Tamraz*, 620 F.3d at 675. The reason for this is, in part, mathematical. *See, e.g., Whiting v. Bos. Edison Co.*, 891 F. Supp. 12, 21 n.41 (D. Mass. 1995) (“If 90 percent of the causes of a disease are unknown, it is impossible to eliminate an unknown disease as the efficient cause of a patient’s illness.”). Indeed, “for diseases for which the causes are largely unknown . . . a differential etiology is of little benefit.” *Federal Judicial Center*, REF. MAN. SCI. EVID., at 618 (3d ed. 2011). Accordingly, the differential diagnosis methodology becomes less reliable as the potential number of idiopathic cases increases, and this is particularly so where the majority of cases are likely idiopathic (as, for example, for CLL). *See, e.g., Hall v. Conoco Inc.*, 886 F.3d 1308, 1315 (10th Cir. 2018) (“Because idiopathy accounts for more than half of the cases of [the disease at issue], a differential diagnosis could be considered inherently unreliable here.”); *Milward v. Rust-Oleum Corp.*, 820 F.3d 469, 476 (1st Cir. 2016) (affirming exclusion of expert because “the extraordinary number of idiopathic . . . cases, coupled with the lack of a reliable means to rule out an idiopathic diagnosis here, muted [the expert’s] ability to reliably apply” the differential diagnosis method); *Bland v. Verizon Wireless, (VAW) L.L.C.*, 538 F.3d 893, 897 (8th Cir. 2008) (“Where the cause of the condition is unknown in the majority of cases, [an expert] cannot properly conclude, based upon a differential diagnosis, [that the patient’s exposure] was ‘the most probable cause’ of [the disease.]” (quotation omitted)).

For this litigation, a plaintiff’s burden is to show that the water supplied at Camp Lejeune is “at least as likely as not” the cause of his or her injury. Camp Lejeune Justice Act of 2022, Pub. L. No. 117-168, § 804(c)(2)(B), 136 Stat. 1759, 1803. Just as the expert must weigh the Camp

Lejeune-related risks against the background risk, the expert must also weigh the Camp Lejeune-related risks against the risks attributable to the other, unexcluded causes (like smoking). Where the Camp Lejeune-related risks are only a fraction of the plaintiff's total disease-risk, it is difficult to attribute but-for causation to Camp Lejeune water even under an "as likely as not" overall burden of proof. *See United States v. Alvarado*, 816 F.3d 242, 249 (4th Cir. 2016) (but-for causation not established where exposure to toxin "plays merely a nonessential contributing role in [the victim's] death.").

Here, Dr. Felsher concluded that exposure to water at Camp Lejeune was "a substantial" or "significant" cause of Mr. Hill's CLL merely by ruling it in as a potential cause. *See* D.E. 496-3 at 6, 21. Notwithstanding this conclusion, he conceded that there "could be other causes." *See* Felsher SC Dep. Tr. at 111:16-23 ("I'm arguing that for...Hill, I know that their exposure to chemicals, including benzene... was a cause and it could be described as significant. I won't say that I know it's the only cause. There could be other causes.").

However, "[t]he fact that exposure to [a substance] may be a risk factor for [a disease] does not make it an actual cause simply because the disease developed," so an expert "cannot merely conclude that all risk factors" are causes. *Guinn*, 602 F.3d at 1255. Instead, "[r]isk factors are *potential* causes," and to reliably opine that a risk factor is a cause within the differential etiology framework, an expert must employ further reasoning. *See In re Lipitor*, 150 F. Supp. 3d at 659. But Dr. Felsher identified no further reasoning to determine that the likely cause of Mr. Hill's CLL was exposure to water at Camp Lejeune beyond ruling it in as a risk factor—*i.e.*, as a potential cause—nor did he take any steps to rule out the significant probability that the cause was something unknown or idiopathic.

Dr. Felsher did not, for example, identify aspects of the presentation of Mr. Hill's disease that are particularly associated with contaminant exposure. *See, e.g., Jones v. Lincoln Elec. Co.*, 188 F.3d 709, 725-26 (7th Cir. 1999) (noting that a neurological disease resulting from exposure to manganese could be distinguished from idiopathic Parkinson's disease based on distinct clinical presentation and response to treatment that were inconsistent with disease caused by manganese exposure). Neither did he identify Mr. Hill's background risk of CLL compared to the risk associated with the potential cause he identified. *See generally In re Lipitor*, 892 F.3d at 642 (in considering "other factors that could have been the sole cause of the plaintiff's injury," an expert must consider the background risks and background incidence of disease); *McClain*, 401 F.3d at 1243 ("A reliable methodology should take into account the background risk."); *Chapman v. Procter & Gamble Distrib., LLC*, 766 F.3d 1296, 1308 (11th Cir. 2014) (describing background risk of disease as "indispensable to proving the effect of an ingested substance"). In fact, Dr. Felsher admitted that background risk *could* be a cause of CLL but did nothing more to compare this risk to the risk associated with the water at Camp Lejeune. *See Felsher SC Dep. Tr.* at 233:10-21 ("Environmental exposure in consideration of background or other sources of exposure is a -- can be a contributing cause...I'm not going to say that there's something in the background that may not also be a cause. That's possible. What I'm saying is the exposure through the contaminated water at Camp Lejeune was a cause.").

Dr. Felsher failed to consider idiopathic causation at all in his report. *See generally*, D.E. 496-3. Dr. Felsher's opinion at his deposition that idiopathic causes are impossible to rule out does not render his method reliable and, instead, underscores the fact that a differential etiology alone is not a reliable method for ruling out unknown causes where those causes may account for the majority of cases. *See Felsher SC Dep. Tr.* at 145:22-145:25; 251:18-252:8; *see also, e.g., Hall*,

886 F.3d at 1315 (“Because idiopathy accounts for more than half of the cases of acute myeloid leukemia, a differential diagnosis could be considered inherently unreliable here.”); *Milward*, 820 F.3d at 476 (affirming trial court’s exclusion of expert because “the extraordinary number of idiopathic . . . cases, coupled with the lack of a reliable means to rule out an idiopathic diagnosis here, muted [the expert’s] ability to reliably apply” the differential diagnosis method); *Bland*, 538 F.3d at 897 (“Where the cause of the condition is unknown in the majority of cases, [an expert] cannot properly conclude, based upon a differential diagnosis, [that the patient’s exposure] was ‘the most probable cause’ of [the disease.]”); *Perry v. Novartis Pharms. Corp.*, 564 F. Supp. 2d 452, 471 (E.D. Pa. 2008) (“Standing alone, the presence of a known risk factor is not a sufficient basis for ruling out idiopathic origin in a particular case, particularly where most cases of the disease have no known cause.”); *Kilpatrick v. Breg, Inc.*, 613 F.3d 1329, 1343 (11th Cir. 2010) (affirming exclusion of expert who admitted he could not explain why “potentially unknown, or idiopathic alternative causes were not ruled out”); RESTATEMENT (THIRD) OF TORTS: LIAB. FOR PHYSICAL AND EMOTIONAL HARM § 28 cmt. C(4) (Am. Law. Inst. 2010) (“When the causes of a disease are largely unknown, . . . [a differential diagnosis] is of little assistance.”).⁴

Importantly, Dr. Felsher’s opinion that the majority of CLL cases arise from the activation of genes that lead to uncontrolled cell growth or the inactivation of tumor suppressor genes in no

⁴ In *Lightfoot v. Georgia-Pacific Wood Prods., LLC*, the defendants argued that two specific causation experts’ opinions were unreliable because they failed to rule out idiopathic cause for a form of sinonasal cancer allegedly caused by wood dust exposure, but Judge Flanagan disagreed. *See* 2018 WL 4517616, at *21-22 (E.D.N.C. Sept. 20, 2018). However, because the experts did in fact “explain why they ruled out the possibility that plaintiff’s [cancer] was idiopathic under the circumstances of [that] case[.]” *id.* at *21, *Lightfoot* is distinguishable on its face. To the extent that *Lightfoot* reasons that a specific causation opinion need not consider idiopathy to be reliable (and especially for a cancer, like CLL, that is idiopathic in most or all cases), the United States respectfully disagrees and submits that this Court should not follow such reasoning.

way suggests that the reason underlying those events is known at all, let alone for the majority of CLL cases. *See* Felsher SC Dep. Tr. at 135:9-14 (“in most cases of NHL, including CLL..., we strongly know that activation of oncogenes or an activation of tumor suppressor genes are generally what causes something to be a cancer cell”). Put another way, Dr. Felsher merely opines that CLL is a cancer, not why it arises. On the actual causes of CLL, Dr. Felsher concedes that “[w]e may not be able to discriminate in a particular context,” *id.* at 128:13-14, and “we don’t always know.” *Id.* at 267:10-11. He further concedes that “there could be other causes I don’t know about, so there’s always the possibility that there’s a component that’s idiopathic.” *Id.* at 252:2-8.

At bottom, Dr. Felsher’s only method for concluding that exposure to water at Camp Lejeune was a cause of Mr. Hill’s CLL is his identification of it as a risk factor. But “[s]tanding alone, the presence of a known risk factor is not a sufficient basis for ruling out idiopathic origin in a particular case... where most cases of the disease have no known cause.” *Henricksen v. Conoco Phillips Co.*, 605 F. Supp. 2d 1142, 1162–63 (E.D. Wash. 2009). Because Dr. Felsher offers no opinion on how often the cause of CLL is unknown or idiopathic, he cannot say whether unknown causes account for the majority of this disease. Therefore, Plaintiffs cannot meet their burden to prove that Dr. Felsher’s method for ruling out unknown causes is reliable, and his causation opinions should be excluded as unreliable under Rule 702 and *Daubert*.

I. Dr. Felsher’s Opinions Regarding Vinyl Chloride, Fatty Liver Disease, and Chronic Kidney Disease Should Be Excluded Because He Abandoned Them at Deposition.

Finally, the United States moves to exclude any testimony from Dr. Felsher that suggests that: (1) Mr. Hill’s alleged exposure to VC in the water at Camp Lejeune was a contributing cause of his CLL; and (2) Mr. Hill’s fatty liver disease and chronic kidney disease were caused by exposure to the water at Camp Lejeune.

First, in his report, Dr. Felsher opined that, more likely than not, Mr. Hill's alleged exposure to VC (along with benzene, TCE, and PCE) in the water at Camp Lejeune was a "substantial" or "significant" contributing cause of his CLL (*see* D.E. 496-3 at 6, 21). However, Dr. Felsher disavowed this opinion in his general causation deposition by conceding that there is insufficient evidence that VC is at least as likely as not a cause of hematopoietic cancers such as CLL. *See* Felsher GC Dep. Tr. at 45:5-46:8.

Second, Mr. Hill claims fatty liver disease and non-cancer chronic kidney disease as secondary conditions, which he alleges were caused by exposure to the water at Camp Lejeune. *See* 3d Am. Short Form Compl., D.E. 21, Case No. 7:23-cv-00028-M-KS. Though Dr. Felsher's report mentioned that Mr. Hill suffered from fatty liver disease and chronic kidney disease among many other conditions, he does not specifically opine that these conditions were caused by exposure to the water at Camp Lejeune. *See* D.E. 496-3 at 20. Importantly, when asked at his deposition, Dr. Felsher disavowed any opinion that Mr. Hill's fatty liver disease (i.e., steatosis) or chronic kidney disease were caused by exposure to the water at Camp Lejeune:

Q. Okay. Are you offering the opinion that Mr. Hill's steatosis was caused by exposure to the water at Camp Lejeune?

A. Not sitting here today.

Q. Okay. Are you offering an opinion that Mr. Hill's chronic kidney disease was caused by his exposure to the water at Camp Lejeune?

A. Not sitting here today.

Felsher SC Dep. Tr. at 279:6-14.

As such, any testimony from Dr. Felsher that suggests that Mr. Hill's alleged exposure to VC in the water at Camp Lejeune was a contributing cause of his CLL, or that Mr. Hill's fatty liver disease and chronic kidney disease were caused by exposure to the water at Camp Lejeune, should be excluded. *See Accident Ins. Co. v. Classic Bldg. Design, LLC*, No. 2:11cv33KS-MTP, 2012 WL 3913090, at *13 (S.D. Miss. Sept. 7, 2012) ("[T]his Court will not set a precedent by accepting an

opinion in an expert's report that the expert later abandoned at deposition"), *aff'd*, 539 F. App'x 465 (5th Cir. 2013) (per curiam); *see also Monje v. Spin Master, Inc.*, No. CV-09-01713-PHX-JJT, 2015 WL 11117070, at *1-2 (D. Ariz. May 6, 2015) ("The Court sees no way an opinion that an expert so unambiguously abandons can provide the degree of reliability that the Federal Rules of Evidence require."), *aff'd*, 670 F. App'x 535 (9th Cir. 2017) (per curiam) (noting that a general causation theory was "excluded as unreliable after the expert witness unambiguously disavowed the theory at his deposition").

CONCLUSION

For the foregoing reasons, the United States respectfully requests that this Court grant this Motion and exclude Dr. Felsher's specific causation opinions from trial in *Hill v. United States* (7:23-CV-00028-M-KS).

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Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that on September 9, 2025, I electronically filed the foregoing using the Court's Electronic Case Filing system, which will send notice to all counsel of record.

/s/ Patrick J. Ryan
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